

Table 4 -1: Lower Minnesota River Watershed District - Implementation Program Budget for 2018 - 2027

ACTION	Strategy e hydrology. It ma	Potential Funding Sources	Duration	Year										
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
EXPENDITURE														
Administrative/Managerial														
General Administrative Services, Conferences, Coordination with LGUs, Stakeholders and other Project Partners, LGU Program Reviews, 9-Foot Channel, and Advisory Committees (Technical and Citizen)	All	GL	Annual	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
Administrative/Managerial Budget Total	All			\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
Studies and Programs														
Cost Share Incentive and Water Quality Restoration Program				\$20,000	\$20,000	\$20,000	\$50,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Education and Outreach Program				\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$40,000	\$40,000
Fen Stewardship Program				\$75,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Geomorphic Assessments (Trout Streams)				\$50,000		\$50,000				\$50,000	\$50,000			
Monitoring Program				\$65,000	\$65,000	\$65,000	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$100,000	\$100,000
Paleo-limnology Study (Floodplain Lakes)				\$50,000						\$50,000				
Sustainable Lake Management Plans (Trout Lakes)				\$50,000		\$50,000		\$50,000		\$50,000	\$50,000			\$50,000
Vegetation Management Plan					\$50,000								\$65,000	
Water Resources Restoration Fund						\$100,000	\$100,000	\$120,000	\$125,000	\$100,000	\$100,000	\$100,000	\$160,000	\$150,000
Studies and Programs Budget Total				\$340,000	\$190,000	\$340,000	\$280,000	\$320,000	\$275,000	\$400,000	\$350,000	\$410,000	\$385,000	\$385,000
Capital Improvements														
Assumption Creek Hydrology Restoration Project					\$30,000									
Carver Creek Restoration Project					\$80,000	\$15,000								
Minnesota River Corridor Management Project						\$25,000	\$75,000							
Groundwater Screening Tool Model				\$50,000	\$50,000	\$50,000								
District Boundary Modification Project				\$10,000										
Downtown Shakopee Targeted BMP Feasibility Study								\$50,000						
Dredge Site Restoration Project				\$240,000	\$240,000									
Eagle Creek (East Branch) Project				\$10,000	\$10,000									
East Creek Bank Stabilization Project					\$50,000									
East Creek Water Quality Treatment Project					\$50,000	\$25,000								
Minnesota River Assessment of Ecological and Economic Impacts of Sedimentation										\$25,000	\$30,000	\$45,000	\$50,000	
Minnesota River Assessment of Water Storage Benefits and Opportunities										\$30,000	\$25,000	\$45,000	\$50,000	
Minnesota River Floodplain Model Feasibility Study					\$30,000									
Minnesota River Sediment Reduction Strategy				\$15,000	\$25,000									
Minnesota River Study Area 3 – Bluff Stabilization Project								\$100,000	\$250,000					
Realignment of the Prior Lake Spring Lake Outlet Channel							\$70,000	\$30,000						
Riley Creek Project – Downstream of Flying Cloud Drive				\$50,000	\$75,000									
Schroeder's Acres Park/Savage Fen Stormwater Management Project					\$39,555	\$181,055								
Seminary Fen Restoration Site A							\$75,000							
Seminary Fen Restoration Site B										\$50,000	\$25,000			
Seminary Fen Ravines Site C-2 and C-3 Studies										\$20,000	\$40,000			
Seminary Fen Ravines Site C-2 and C-3 Design and Construction											\$55,000	\$50,000	\$65,000	
Spring Creek Project					\$45,000									
West Chaska Creek Project					\$50,000									
Capital Improvements Budget				\$375,000	\$774,555	\$296,055	\$220,000	\$180,000	\$250,000	\$125,000	\$175,000	\$140,000	\$165,000	\$165,000
TOTAL EXPENDITURES				\$965,000	\$1,214,555	\$886,055	\$750,000	\$750,000	\$775,000	\$775,000	\$775,000	\$800,000	\$800,000	\$800,000

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REVENUE														
General Levy				\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
Planning and Implementation Levy				\$475,000	\$588,500	\$500,000	\$500,000	\$500,000	\$525,000	\$525,000	\$525,000	\$550,000	\$550,000	\$550,000
WBF - Pilot Funding (Scott)					\$73,275	\$73,275								
WBF - Pilot Funding (Carver)					\$12,736	\$12,736								
WBF - Pilot Funding (Dakota)					\$32,725	\$32,725								
WBF - Pilot Funding (Hennepin)					\$17,319	\$17,319								
Special Channel Maintenance Funding														
Grants				\$240,000	\$240,000									
TOTAL REVENUE				\$965,000	\$1,214,555	\$886,055	\$750,000	\$750,000	\$775,000	\$775,000	\$775,000	\$800,000	\$800,000	\$800,000

Table 4-3: Lower Minnesota River Watershed District - Capital Improvement Projects

Project Name	Project Descriptions	Project Partner	Estimated Cost	Estimated Timeline
Assumption Creek Hydrology Restoration Project	Assumption Creek is a trout stream, so it is important to maintain the temperature of groundwater discharge. According to the City of Chaska, portions of the creek dry out periodically. It is unknown exactly what has reduced the hydrology of the creek. It may have been the U.S. Army Corps of Engineers' historic creek rerouting for the brick factory, road construction, or other development effects. The project described here will evaluate the opportunities available to resupply the groundwater hydrology to the creek.	City of Chaska and DNR	\$30,000	2019
Carver Creek Restoration Project	This will include stabilizing the outer bends with toe protection, grading banks to a more stable slope, and stabilizing the gully.	City of Carver, Carver WMO, Carver County SWCD and USEWS	\$95,000	2019 - 2020
Minnesota River Corridor Management Project	Using the Minnesota River as a focal point, this project will examine issues facing the river's complex natural system, a shared resource and a place where varied interests and other systems converge. We seek to (1) create greater understanding of the Lower Minnesota River Corridor and its landscape, (2) demonstrate a desired future for the river and how change in the surrounding landscape can help attain this future, (3) suggest a structure or framework by which the vision can be implemented, and (4) identify shared community and public values that form the basis of the project. (This design is modeled after the Vermillion River Corridor Plan.)	All District LGUs	\$100,000	2020 - 2021
Groundwater Screening Tool Model	The District will develop a district-specific groundwater model that can be used as a preliminary screening tool for the evaluation of groundwater appropriation requests related to four fens within the district (Black Dog, Fort Snelling, Nicols, and Quarry Island). The goal of the model is to define the approximate extent of the recharge zones for the fens and provide a method for evaluating whether the proposed groundwater withdrawals may cause significant decline in head at one or more of the referenced fens.	DNR	\$150,000	2018 - 2020
District Boundary Modification Project	District staff will work with BWSR and the neighboring watershed districts and water management organizations to review and possibly modify the district's jurisdictional boundary.	BWSR, Carver County WMO, and Riley – Purgatory Bluff Creek WD	\$10,000	2018
Downtown Shakopee Targeted BMP Feasibility Study	A feasibility study will be done in downtown Shakopee to identify opportunities for implementing the targeted best management practices.	City of Shakopee	\$50,000	2022
Dredge Site Restoration Project	This project consists of implementing the site restoration project identified in the February 15, 2017, <i>Estimate of Probable Cost, Cargill East River (MN-14.2 RMP) Dredge Material Site</i> technical memorandum prepared by Burns & McDonnell, Young Environmental Consulting Group, LLC, and Berrini & Associates, LLC, for the Cargill East River (MN – 14.2 RMP) Dredge Material Site located on the Minnesota River in Savage, Minnesota.	BWSR	\$480,000	2018 - 2019
Eagle Creek (East Branch) Project	This project will restore approximately 2,400 feet of stream and repair erosion under the 128th Street Bridge. The goals of the project are to reduce erosion and improve fish habitat. Due to beaver dams, the stream cuts into three valley walls, contributing to significant deposits of sediment.	DNR, MN Trout Unlimited and City of Savage.	\$20,000	2018 - 2019
East Creek Bank Stabilization Project	Identified in the East Chaska Creek Restoration feasibility study, the scour hole downstream of Crosstown Boulevard Bridge will be repaired, bank armoring installed, toe protection and grade control structures added behind Cuzzy's Brickhouse Restaurant, and bank armoring and toe protection installed on the right bank of East Oak Street.	City of Chaska, MPCA and BWSR	\$50,000	2019
East Creek Water Quality Treatment Project	This feasibility study reports that the ideal site to construct a treatment wetland was south of the creek in two vacant lots along Chaska Boulevard. Most lots there are paved right up to the edge of the creek bank. The flow could be diverted from the creek channel into a stormwater treatment system to provide for sediment removal, flood storage, and bacteria treatment.	City of Chaska and MPCA	\$75,000	2019 - 2020

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Project Name	Project Descriptions	Project Partner	Estimated Cost	Estimated Timeline
Minnesota River Assessment of Ecological and Economic Impacts of Sedimentation	This project will examine sedimentation in the Lower Minnesota River Watershed including monitoring, modeling, and analyzing sediment sources, sinks, and pathways in the watershed; summarizing how sources, sinks, and pathways may have changed; and estimating the economic and ecological effects of sedimentation. The project team will look at how sedimentation (1) changes the stage-discharge relationships that may cause flooding, (2) generates costs to maintain a commercial navigation channel on the Minnesota River, and (3) affects the watershed with its ecological conditions. Through these analyses, a new baseline can be established and an understanding created of how changes in land use will alter the watershed baseline and create a new condition.	BWSR and Army Corps of Engineers	\$150,000	2024 - 2027
Minnesota River Assessment of Water Storage Benefits and Opportunities	Using the Agricultural Conservation Planning Framework (ACPF) and the Prioritize, Target, and Measure Application (PTMApp), we will determine if a flow reduction would benefit from the placement of storage measures in key locations throughout the basin. This analysis will help us understand if the threshold for meaningful change can be realized to recommend specific levels of storage in the basin. The analysis is needed to accomplish the desired outcomes: (1) hydro-correct DEMs for the lower watershed where storage impacts are desired, (2) run ACPF on priority sub-basins to determine where storage opportunities exist, (3) develop a detailed hydrologic model if one does not exist, (4) run existing and storage scenarios to determine if the amount of the discharges could be lowered for hypothetical rainfall events ranging from 10-year to 100-year events, and (5) summarize the saturation of storage and the maximum change anticipated in the specific agro ecoregion.	MPCA and BWSR	\$150,000	2025 - 2027
Minnesota River Floodplain Model Feasibility Study	We will review the existing Minnesota River floodplain model to determine if updates are required.	DNR, Army Corps of Engineers, and all LGUs within the District	\$30,000	2019
Minnesota River Sediment Reduction Strategy	This project team will collaborate with the MPCA in developing strategies for evaluating and mitigating sediment loads going into the Minnesota River.	MPCA and BWSR	\$40,000	2018 - 2019
Minnesota River Study Area 3 – Bluff Stabilization Project	To address river bank erosion, we will analyze the design and construction of the Minnesota River at Study Area 3 project in Eden Prairie. A study was completed in October 2008 for the City of Eden Prairie in cooperation with the district. Our project will expand the 2008 study by collecting and analyzing additional data that will extend to the final design, permitting, and construction.	City of Eden Prairie	\$350,000	2022 - 2023
Realignment of the Prior Lake Spring Lake Outlet Channel	This project will place additional capacity and control structures in the channel to handle increased runoff that is draining into the channel because of developments.	City of Shakopee	\$100,000	2021 - 2022
Riley Creek Project – Downstream of Flying Cloud Drive	The project will provide an energy dissipation below the County Road 61/ Flying Cloud Drive bridge and redirect flows away from outside the creek meanders.	Hennepin County	\$75,000	2018 - 2019
Schroeder's Acres Park/Savage Fen Stormwater Management Project	This project will evaluate options for incorporating storm-water wetland and irrigation reuse systems on the site and address phosphorous, temperature, metals, E. coli and runoff volume in Eagle Creek.	City of Savage and DNR	\$220,000	2019 - 2020
Seminary Fen Restoration Site A	At the intersection of Engler and Audubon in Chaska, Minnesota, 3.61 acres of wetland will be purchased and restored. This site is dominated by reed canary grass and offers the greatest threat to the rare plants of the Seminary Fen Wetland Community. The site is next to a 6-acre wetland that was restored by the City of Chaska in partnership with the DNR.	City of Chaska and DNR	\$75,000	2021
Seminary Fen Restoration Site B	A partially drained 17-acre wetland from Falls Curve Road to Old Highway 12, that is predominantly growing reed canary grass, will be restored. The restoration involves disabling the drainage system and restoring vegetation.	City of Chaska and DNR	\$75,000	2024 - 2025
Seminary Fen Ravines Site C-2 and C-3 Studies	Seminary Fen Ravine Sites C-2 and C-3 are actively discharging sediment into the Seminary Fen Wetland Complex. This project will conduct a ravine study to estimate sediment contribution to the Seminary Fen from sites C-2 and C-3 and provide approaches and cost estimates for correcting the erosion problems.	City of Chaska and DNR	\$60,000	2024 - 2025
Seminary Fen Ravines Site C-2 and C-3 Design and Construction	The final design and construction will be done for the Ravine Sites C-2 and C-3, which are discharging sediment into the Seminary Fen Wetland Complex.	City of Chaska and DNR	\$170,000	2025 - 2027
Spring Creek Project	This project consists of retrofitting two catch basins into the structural treatment devices in the Lenzen first and second additions. In addition, the project will treat untreated discharge that comes from upstream into Spring Creek at 6th Street.	City of Carver	\$45,000	2019
West Chaska Creek Project		Carver County WMO	\$50,000	2019